

HUI LI

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EDUCATION

- 1990 - 1995 Ph.D. in Theoretical Astrophysics, Rice University
- 1986 - 1990 B.S. in Physics, Beijing University

PROFESSIONAL EXPERIENCES

- 2002 - present Adjunct Faculty, Dept. of Physics and Astronomy, Rice University
- 2000 - present Technical Staff Member, Los Alamos National Laboratory
- 1997 - 2000 J. Robert Oppenheimer Fellow, Los Alamos National Laboratory
- 1995 - 1997 Director's Postdoctoral Fellow, Los Alamos National Laboratory
- 1990 - 1995 Graduate Fellowship and Research Assistant, Rice University

HONORS and AWARDS

- 2016 - present Astrophysics Focus Leader, Center for Space and Earth Sciences, LANL
- 2014 LAAP Award, HED Refresh Study, C4, LANL
- 2010 Award of Excellence, Defense Programs
- 2005 Fellow, American Physical Society, for contributions to Plasma Astrophysics
- 1997 - 2000 J. Robert Oppenheimer Fellow, Los Alamos National Laboratory
- 1995 - 1997 Director's Postdoctoral Fellow, Los Alamos National Laboratory
- 1994 - 1995 Grants-in-Aid of Research Award from Sigma Xi Research Society
- 1993 - 1994 William and Elva Gordon Fellowship, Rice University
- 1990 - 1991 Rice Graduate Fellowship

SERVICES and SOCIETIES

- Chair, Topical Group in Plasma Astrophysics, American Physical Society (2006-2007)
- Executive Committee Member, Topical Group in Plasma Astrophysics, APS (2003-2005)
- Referee of Nature, Astrophys. J. Lett., Astrophys. J., Astronomy & Astrophys., Geophysical Res. Lett., J. Geophysical Res., Phys. Rev. Lett., Phys. of Plasmas, etc.
- Review panel member of NASA, NSF, DOE programs
- Panel member of various LANL committees and LDRD (DR and ER) committees
- Member of AAS, APS and AAPPS-DPP
- Organize or Co-Organize ~ 3 – 5 conferences per year
- Astrophysics Focus Leader, Center for Space and Earth Sciences, LANL

SUPERVISED POSTDOCS and STUDENTS

Postdocs for whom I was the primary mentor:

- Dr. K. Noguchi (1/01-3/03, *Director's Fellow*) on disks — now a researcher in private industry
- Dr. I. Tregillis (09/02-09/04) on astrophysical MHD — now a TSM at LANL/XCP-div
- Dr. M. Nakamura (08/05-08/08) on astrophysical jets — now a faculty in Taiwan
- Dr. V. Svidzinski (02/07-12/09) on plasma instabilities — now a researcher in private industry
- Dr. C. Yu (05/07-04/10) on protoplanets — now a faculty in YunNan Observatory, China

- Dr. W. Liu (10/07-07/10) on plasma astrophysics — now a faculty in Mayo Clinic
- Dr. J. Pino (06/09-10/10) on relativistic plasma astrophysics — now a TSM at LLNL
- Dr. H. Xu (06/09-08/12) on magnetic fields in galaxy clusters — now a postdoc at UCSD
- Dr. A. Beresnyak (06/10-present, *Director's Fellow, Humboldt Fellow*) on MHD turbulence — now a Staff at NRL
- Dr. D. Collins (03/11-07/13, *Metropolis Fellow*) on star formation, now a faculty at FSU
- Dr. X. Guan (08/12-09/14) on relativistic jet, now a researcher in private industry, Exxon

Postdocs for whom I was a co-mentor:

- Dr. K. Nishimura (9/01-9/03) on collisionless reconnection — now in private industry, Japan
- Dr. S. Li (09/02-09/04) on numerical MHD — now a TSM at T-5
- Dr. S. Diehl (06/06-06/08) on AGN feedback in galaxies — now in private industry, Germany
- Dr. S. Liu (11/05-11/07, *Director's Fellow*) on disks — now a faculty in PM Observ. China
- Dr. M. Buoni (01/10-01/11) on numerical MHD — now a teaching faculty at UCSB
- Dr. H. Aluie (08/09-08/12) on turbulence, now a faculty at U. Rochester
- Dr. Y. Liu (07/11-07/14) on magnetic reconnection, now a NASA Postdoc Fellow at Goddard
- Dr. J. Johnson (08/11- 06/13, *Director's Fellow*) on black holes, now a TSM at XTD
- Dr. J. Smidt (08/12-07/14, *Director's Fellow*) on early galaxy formation, now a TSM at XTD
- Dr. F. Guo (12/12-present) on particle acceleration
- Dr. X. Zhang (03/13-present, UC-Santa Cruz) on protoplanet formation
- Dr. F. Wen (03/13-03/15, Rice) on protoplanet migration
- Dr. S. Liu (11/15-present, Rice) on protoplanetary disks and planet formation
- Dr. W. Deng (09/15-present, UNLV) on Gamma Ray Bursts
- Dr. H. Zhang (12/15-present, UNM) on astrophysical jets

Students for whom I was the primary mentor:

- Mr. J. Koller (PhD 2005, Rice) on protoplanet migration — now a TSM at ISR-div
- Mr. H. Xu (PhD 2009, UCSD) on magnetic fields in galaxy clusters – now a postdoc at UCSD
- Mr. C. Bustard (B.S. 2013, Rice) astrophysics – now a Graduate Fellow at UW-Madison

Students for whom I was a co-mentor:

- Mr. X. Sun (7/97-5/98) on X-ray astronomy — now a researcher at Duke University
- Mr. G. Hilburn (10/07-05/12, Rice) on high energy radiation from accretion disks
- Mr. F. Guo (07/10-05/12, U. Arizona) on MHD turbulence
- Mr. X. Zai (03/12-06/15, Caltech) on astrophysical jets
- Mr. H. Zhang (03/12-12/15, Ohio) on astrophysical jets
- Mr. M. Shi (01/14-present, PKU) on solar wind turbulence
- Mr. W. Deng (01/14-09/15, UNLV) on Gamma Ray Bursts
- Mr. X. Li (01/14-present, UAH) on particle acceleration in solar flares
- Served as mentor for > 10 short-term students; Hosting numerous visitors per year.

PUBLICATIONS

1. **Li, H.** & Dermer, C.D. "Gamma-ray Bursts from High-Velocity Neutron Stars", **Nature**, 359, 514 (1992)
2. **Li, H.** & Liang, E.P. "X-ray Flashes From M31 Based on Extended Halo Models of Gamma-ray Bursts", **Astrophysical Journal Letters**, 400, L59 (1992)
3. Liang, E.P. & **Li, H.** "Possible Stellar Flare Contributions to the BATSE Gamma-ray Burst Database", **Astronomy and Astrophysics Letters**, 273, L53 (1993)
4. Kargatis, V.E., **Li, H.**, et al. "Duration versus Brightness of Gamma-ray Bursts: Comparison Between SIGNE and BATSE", **Astrophysical Journal Letters**, 421, L83 (1994)
5. Liang, E.P. & **Li, H.** "On Relativistic Ejections from GRS 1915+105", **Astronomy and Astrophysics Letters**, 298, L45 (1995)
6. Dermer, C.D., Miller, J.A., & **Li, H.** "Stochastic Particle Acceleration near Accreting Black Holes", **Astrophysical Journal**, 456, 106 (1996)
7. **Li, H.** & Liang, E.P. "Formation and Radiation Acceleration of Pair Plasmoids near Galactic Black Holes", **Astrophysical Journal**, 458, 514 (1996)
8. **Li, H.**, Kusunose, M., & Liang, E.P. "Gamma-rays from Galactic Black Hole Candidates with Stochastic Particle Acceleration", **Astrophysical Journal Letters**, 460, L29 (1996)
9. **Li, H.**, Fenimore, E.E., & Liang, E.P. "Detectability of Gamma-ray Burst Excess toward M31", **Astrophysical Journal Letters**, 461, L73 (1996)
10. **Li, H.** & Fenimore, E.E. "Log-normal Distributions in Gamma-Ray Burst Time Histories", **Astrophysical Journal Letters**, 469, L115 (1996)
11. **Li, H.**, Kusunose, M., & Liang, E.P. "Non-thermal High Energy Emissions and Stochastic Particle Acceleration in Galactic Black Holes", **Astronomy and Astrophysics Supplements**, 120, C167 (1996)
12. **Li, H.** & Miller, J.A. "Electron Acceleration and the Production of Nonthermal Electron Distributions in Accretion Disk Coronae", **Astrophysical Journal Letters**, 478, 67 (1997)
13. Duncan, R.C. & **Li, H.** "The Halo Beaming Model for Gamma Ray Bursts", **Astrophysical Journal**, 484, 720 (1997)
14. **Li, H.** "An Overview of the Physical Issues on Pulsar Winds", **RevMexAA**, 7, 98 (1998)
15. Gary, S.P., **Li, H.**, O'Rourke, S. & Winske, D. "Proton resonant firehose instability: Temperature anisotropy and fluctuating field constraints", **Journal of Geophysical Research**, 103, A7, 14567 (1998)
16. Colgate, S.A. & **Li, H.** "Dynamo Dominated Accretion and Energy Flow: The Mechanism of Active Galactic Nuclei", **Astrophys. and Space Sci.**, 264, 357 (1999)
17. Dermer, C.D., **Li, H.**, Chiang, J. "Correlated Spectral and Temporal Variability in the High-Energy Emission from Blazars", **Astrophysical Letters and Communications**, 39, 1 (1999)

18. Lovelace, R.V.E, **Li, H.**, Colgate, S.A. & Nelson, A.F. “Rossby Wave Instability of Keplerian Accretion Disks”, **Astrophysical Journal**, 513, 805 (1999)
19. Michel, F.C. & **Li, H.** “Electrodynamics of Neutron Stars”, **Physics Reports**, 318, 227 (1999)
20. Gary, S.P. & **Li, H.** “Whistler Heat Flux Instability at High Beta”, **Astrophysical Journal**, 529, 1131 (2000)
21. **Li, H.**, Finn, J.M., Lovelace, R.V.E. & Colgate, S.A. “Rossby Wave Instability of Thin Accretion Disks – II. Detailed Linear Theory”, **Astrophysical Journal**, 533, 1023 (2000)
22. Gary, S.P., Kazimura, Y., **Li, H.**, & Sakai, J.I. “Simulations of Electron/Electron Instabilities: Electromagnetic Fluctuations”, **Physics of Plasmas**, 7, 448 (2000)
23. Kazimura, Y., Gary, S.P. & **Li, H.**, & Sakai, J.I. “Electromagnetic Fluctuations Near the Electron Plasma Frequency From An Electron/Electron Instabilities”, **Journal of Geophysical Research**, 105, 10537 (2000)
24. Kazimura, Y., Tega, H., **Li, H.**, & Sakai, J.I. “Wave excitations from high dense and hot plasmas”, **Progress of Theoretical Phy. Supp.**, 138, 650 (2000)
25. Haruki, T., Sakai, J.I., Bulanov, S., & **Li, H.** “Formation of Helical Current During Coalescence of Current Loops in Pair Plasmas”, **Progress of Theoretical Phy. Supp.**, 138, 718 (2000)
26. Kusunose, M., Takahara, F., & **Li, H.** “Electron Acceleration and Time Variability of High-Energy Emission from Blazars”, **Astrophysical Journal**, 536, 299 (2000)
27. **Li, H.** & Kusunose, M. “Temporal and Spectral Variabilities of High Energy Emission from Blazars Using Synchrotron Self-Compton Models”, **Astrophysical Journal**, 536, 729 (2000)
28. Ustyugova, G.V., Lovelace, R.V.E., Romanova, M.M., **Li, H.**, & Colgate, S.A., “Poynting Jets from Accretion Disks: Magnetohydrodynamic Simulations”, **Astrophysical Journal Letters**, 541, L21 (2000)
29. Colgate, S.A., **Li, H.**, & Pariev, V., “The Origin of the Magnetic Fields of the Universe: The Plasma Astrophysics of the Free Energy of the Universe”, **Physics of Plasmas**, 8, 2425 (2001)
30. **Li, H.**, Colgate, S.A., Wendroff, B., & Liska, R., “Rossby Wave Instability of Thin Accretion Disks – III. Nonlinear Simulations”, **Astrophysical Journal**, 551, 874 (2001)
31. **Li, H.**, Gary, S.P. & Stawicki, O., “On the Dissipation of Magnetic Fluctuations in the Solar Wind”, **Geophys. Res. Lett.**, 28, 1347 (2001)
32. Stawicki, O., Gary, S.P., & **Li, H.**, “Solar Wind Magnetic Fluctuations Spectra: Dispersion versus Damping”, **Journal of Geophysical Research**, 106, 8273 (2001)
33. Krönberg, P.P., Dufton, Q., **Li, H.**, & Colgate, S.A., “Magnetic Energy of the Intergalactic Medium from Galactic Black Holes”, **Astrophysical Journal**, 560, 178 (2001)
34. **Li, H.**, Lovelace, R.V.E., Finn, J.M., & Colgate, S.A., “Magnetic Helix Formation Driven by Keplerian Disk Rotation in an External Plasma Pressure — The Initial Expansion Stage”, **Astrophysical Journal**, 561, 915 (2001)

35. Lovelace, R.V.E., **Li, H.**, Koldoba, A.V., Ustyugova, G.V., & Romanova, M.M., "Poynting Jets from Accretion Disks", **Astrophysical Journal**, 572, 445 (2002)
36. Nishimura, K., Gary, S.P., & **Li, H.**, "Whistler Anisotropy Instability: Wave-Particle Scattering Rate", **Journal of Geophysical Research**, 107, DOI 10.1029/2002JA009250 (2002)
37. Nishimura, K., Gary, S.P., **Li, H.**, & Colgate, S.A. "Magnetic Reconnection in a Force-Free Plasma: Relationship between Micro- and Macroinstabilities", **Physics of Plasmas**, 10, 347 (2003)
38. Liang, E.P.T., Nishimura, K., **Li, H.**, & Gary, S.P. "Particle Energization in an Expanding Magnetized Relativistic Plasma", **Phys. Rev. Lett**, 90, 085001 (2003)
39. **Li, H.**, Nishimura, K., Barnes, D.C., Gary, S.P., & Colgate, S.A. "Magnetic Reconnection in a Force-Free Plasma with a Sheet-Pinch Configuration", **Physics of Plasmas**, 10, 2763 (2003)
40. Koller, J., **Li, H.**, & Lin, D.N.C. "Vortices in the Co-orbital Region of an Embedded Protoplanet", **Astrophysical Journal Letters**, 596, 91 (2003)
41. Colgate, S.A., Cen, R., **Li, H.**, Currier, N., & Warren, M. "Cosmological Mestel Disks and the Rossby Vortex Instability: The Origin of Supermassive Black Holes", **Astrophysical Journal Letters**, 598, 7 (2003)
42. Ji, H., Brown, M., Hsu, S.C., **Li, H.**, "Mini-conference and related sessions on laboratory plasma astrophysics", **Physics of Plasmas**, 11, 2976 (2004)
43. Kronberg, P.P, Colgate, S.A., **Li, H.**, & Dufton, Q.W. "Giant Radio Galaxies and Cosmic-Ray Acceleration", **Astrophysical Journal**, 604, 77 (2004)
44. Finn, J.M., Lapenta, G., & **Li, H.**, "Similarity solutions for magnetic bubble expansion", **Physics of Plasmas**, 11, 2082 (2004)
45. Colgate, S.A., & **Li, H.** "Acceleration mechanisms 2: force-free reconnection", **Comptes Rendus Physique**, 5, 431 (2004)
46. Li, S., & **Li, H.**, "A Novel Approach for Maintaining Divergence-Free for Adaptive Mesh Refinement", **J. Computational Phys.**, 199, 1 (2004)
47. **Li, H.**, Li, S. Koller, J., Wendroff, B.B., Liska, R., Orban, C.M., Liang, E.P.T., Lin, D.N.C. "Potential Vorticity Evolution of a Protoplanetary Disk with an Embedded Protoplanet", **Astrophysical Journal**, 624, 1003 (2005)
48. **Li, H.** et al., "Modeling the Large-Scale Structures of Astrophysical Jets in the Magnetically Dominated Limit", **Astrophysical Journal**, 643, 92 (2006)
49. Nakamura, M., **Li, H.**, & Li, S. "Structure of Magnetic Tower Jets in Stratified Atmospheres", **Astrophysical Journal**, 652, 1059 (2006)
50. Nakamura, M., **Li, H.**, & Li, S. "Stability Properties of Magnetic Tower Jets", **Astrophysical Journal**, 656, 721 (2007)
51. Bowers, K., & **Li, H.**, "Spectral Energy Transfer and Dissipation of Magnetic Energy from Fluid to Kinetic Scales", **Phys. Rev. Lett**, 98, 035002 (2007)

52. Liu, S., Qian, L., Wang, J., Fryer, C., **Li, H.**, “The Nature of Linearly Polarized Millimeter and Submillimeter Emission in Sagittarius A*”, **Astrophysical Journal Letters**, 668, 127 (2007)
53. Li, S., **Li, H.**, & Cen, R. “CosmoMHD: A Cosmological Magnetohydrodynamics Code”, **Astrophysical Journal Suppl.**, 174, 1 (2008)
54. Fan, Z., Liu, S., Wang, J., Fryer, C.L., & **Li, H.**, “Stochastic Acceleration in the Western Hotspot of Pictor A”, **Astrophysical Journal Letters**, 673, 139 (2008)
55. Huang, L., Liu, S., Shen, Z., Cai, M., **Li, H.**, Fryer, C. “Linearly and Circularly Polarized Emission in Sagittarius A*”, **Astrophysical Journal Letters**, 676, 119 (2008)
56. Xu, H., **Li, H.**, Collins, D., Li, S., Norman, M., “Formation of X-Ray Cavities by the Magnetically Dominated Jet-Lobe System in a Galaxy Cluster”, **Astrophysical Journal Letters**, 681, 61 (2008)
57. Liu, S., Fan, Z., Fryer, C., Wang, J., **Li, H.**, “Stochastic Electron Acceleration in Shell-Type Supernova Remnants”, **Astrophysical Journal Letters**, 683, 163 (2008)
58. Liu, W., **Li, H.**, Li, S., Hsu, S., “Long-Term Evolution of Magnetized Bubbles in Galaxy Clusters”, **Astrophysical Journal Letters**, 684, 57 (2008)
59. Liu, W., Hsu, S., **Li, H.**, Li, S., Lynn, A., “Ideal magnetohydrodynamic simulation of magnetic bubble expansion as a model for extragalactic radio lobes”, **Physics of Plasmas**, 15, 072905 (2008)
60. Nakamura, M., Tragillis, I., **Li, H.**, & Li, S., “A Numerical Model of Hercules A by Magnetic Tower: Jet/Lobe Transition, Wiggling, and the Magnetic Field Distribution”, **Astrophysical Journal**, 686, 843 (2008)
61. Diehl, S., **Li, H.**, Fryer, C.L., & Rafferty, D. “Constraining the Nature of X-ray Cavities in Clusters and Galaxies”, **Astrophysical Journal**, 687, 173 (2008)
62. Xu, H., O’Shea, B.W., Collins, D., Norman, M.L., **Li, H.**, Li, S. “The Biermann Battery in Cosmological MHD Simulations of Population III Star Formation”, **Astrophysical Journal Letters**, 688, 57 (2008)
63. Svidzinski, V.A., **Li, H.**, “Calculation of resistive magnetohydrodynamics and two-fluid tearing modes by example of reversed-field-pinch-like plasma”, **Physics of Plasmas**, 15, 052106 (2008)
64. Svidzinski, V.A., Mirnov, V., **Li, H.**, “ $m=1$ ideal kink modes in a line-tied screw pinch with finite plasma pressure”, **Physics of Plasmas**, 15, 092106 (2008)
65. Gary, S.P., Saito, S., **Li, H.**, “Cascade of whistler turbulence: Particle-in-cell simulations”, **Geophys. Res. Lett.**, 35, L02104, doi:10.1029/2007GL032327 (2008)
66. Saito, S., Gary, S.P., **Li, H.**, & Narita, Y. “Whistler Turbulence: Particle-in-cell Simulations”, **Physics of Plasmas**, 15, 102305 (2008)
67. Wang, Z., Si, J., Liu, W., **Li, H.**, “Equilibrium and magnetic properties of a rotating plasma annulus”, **Physics of Plasmas**, 15, 102109 (2008)

68. Li, S., Buoni, M., **Li, H.**, "A Fast Potential and Self-Gravity Solver for Non-Axisymmetric Disks", **Astrophysical Journal Suppl.**, 181, 244 (2009)
69. Svidzinski, V.A., **Li, H.**, Albright, B.J., Bowers, K.J., "Particle in cell simulations of tearing modes in reversed-field-pinch-like plasma", **Physics of Plasmas**, 16, 022504 (2009)
70. **Li, H.**, Lubow, S., Li, S., Lin, D.N.C., "Type I Planet Migration in Nearly Laminar Disks", **Astrophysical Journal Letters**, 690, L52 (2009)
71. Xu, H., **Li, H.**, Collins, D., Li, S., Norman, M., "Turbulence and Dynamo in Galaxy Cluster Medium - Implications on the Origin of Cluster Magnetic Fields", **Astrophysical Journal Letters**, 698, L14 (2009)
72. Yu, Cong, & **Li, H.**, "Nonaxisymmetric Rossby Vortex Instability with Toroidal Magnetic Fields in Structured Disks", **Astrophysical Journal**, 702, 75 (2009)
73. Liu, W., Hsu, S.C., **Li, H.**, "Ideal Magnetohydrodynamic Simulations of Low Beta Compact Toroid Injection into a Hot Strongly Magnetized Plasma", **Nuclear Fusion**, 49, 095008 (2009)
74. Huang, L., Liu, S., Shen, Z., Yuan, Y., Cai, M., **Li, H.**, Fryer, C., "Polarized Emission of Sagittarius A*", **Astrophysical Journal**, 703, 557 (2009)
75. Svidzinski, V.A., **Li, H.**, Rose, H. A., Albright, B. J., Bowers, K. J., "Particle in cell simulations of fast magnetosonic wave turbulence in the ion cyclotron frequency range", **Physics of Plasmas**, 16, 122310 (2009)
76. Hilburn, G., Liang, E., Liu, S., **Li, H.**, "Monte Carlo simulations of the broad-band spectra of Sagittarius A* through the use of general relativistic magnetohydrodynamics", **Monthly Notices of Royal Astronomical Society**, 401, 1620 (2010)
77. Collins, D.C., Xu, H., Norman, M.L., **Li, H.**, Li, S., "Cosmological AMR MHD with Enzo", **Astrophysical Journal Suppl.**, 186, 308 (2010)
78. Svidzinski, V.A., **Li, H.**, "Stabilization of ideal pressure gradient driven edge modes during pulsed parallel current drive in reversed field pinch", **Nuclear Fusion**, 50, 045009 (2010)
79. Yu, C., **Li, H.**, Li, S., Lubow, S. H., Lin, D.N.C., "Type I Planet Migration in Nearly Laminar Disks: Long-Term Behavior", **Astrophysical Journal**, 712, 198 (2010)
80. Pino, J., **Li, H.**, Mahajan, S.M., "Relaxed States in Relativistic Multi-Fluid Plasmas", **Physics of Plasmas**, 17, 112112 (2010)
81. Xu, H., **Li, H.**, et al. "Evolution and Distribution of Magnetic Fields from Active Galactic Nuclei in Galaxy Clusters I: The Effect of Injection Energy and Redshift", **Astrophysical Journal**, 725, 2152 (2010)
82. Colgate, S.A., **Li, H.**, Kronberg, P.P. "The Magnetized Universe: Its Origin and Dissipation through Acceleration and Leakage to the Voids", **Advances in Plasma Astrophysics**, IAU Symposium, 274, 2 (2011)
83. Colgate, S.A., et al. "High Magnetic Shear Gain in a Liquid Sodium Stable Couette Flow Experiment: A Prelude to an $\alpha - \Omega$ Dynamo", **Phys. Rev. Lett.**, 106, 175003 (2011)

84. Hilburn, G., Liang, E., Liu, S., **Li, H.**, “General relativistic magnetohydrodynamic and Monte Carlo Modeling of Sagittarius A*”, **Astrophysics and Space Science**, 336, 145 (2011)
85. Liu, W., **Li, H.**, et al. “Particle Energization in 3D Magnetic Reconnection of Relativistic Pair Plasmas”, **Physics of Plasmas**, 18, 052105 (2011)
86. Xu, H., **Li, H.**, et al. “Evolution and Distribution of Magnetic Fields from Active Galactic Nuclei in Galaxy Clusters II: The Effects of Cluster Size and Dynamical State”, **Astrophysical Journal**, 739, 77 (2011)
87. Price, S., Link, B., Epstein, R.I., **Li, H.**, “Thermo-Resistive Instability in Magnetar Crusts”, **Monthly Notices of Royal Astronomical Society**, 420, 949 (2012)
88. Collins, D.C., Kristuk, A.G., Padoan, P., **Li, H.**, Xu, H., Ustyugov, S.D., Norman, M.L., “The Two States of Star-forming Clouds”, **Astrophysical Journal**, 750, 13 (2012)
89. Guo, F., Li, S., **Li, H.**, Giacalone, J., Jokipii, J.R. and Li, D., “On the Magnetic Field Amplification by a Supernova Blast Shock Wave in a Turbulent Medium”, **Astrophysical Journal**, 747, 98 (2012)
90. Aluie, H., Li, S., **Li, H.** “The Conservative Cascade of Kinetic Energy in Compressible Turbulence”, **Astrophysical Journal Letters**, 751, 29 (2012)
91. Johnson, J.L., Whalen, D.J., Fryer, C.L., **Li, H.** “The Growth of the Stellar Seeds of Supermassive Black Holes”, **Astrophysical Journal**, 750, 66 (2012)
92. Johnson, J.L. & **Li, H.** “The First Planets: the Critical Metallicity for Planet Formation”, **Astrophysical Journal**, 751, 81 (2012)
93. Xu, H., Govoni, F., Murgia, M., **Li, H.**, et al. “Comparisons of Cosmological Magnetohydrodynamic Galaxy Cluster Simulations to Radio Observations”, **Astrophysical Journal**, 759, 40 (2012)
94. Skillman, S.W. et al. “Cosmological Magnetohydrodynamic Simulations of Galaxy Cluster Radio Relics: Insights and Warnings for Observations”, **Astrophysical Journal**, 765, 21 (2013)
95. Johnson, J.L. & **Li, H.** “Constraints on planet formation via gravitational instability across cosmic time”, **Monthly Notices of Royal Astronomical Society**, 431, 972 (2013)
96. Liu, Y-H, Daughton, W., Karimabadi, H., **Li, H.**, & Roytershteyn, V. “Bifurcated Structure of the Electron Diffusion Region in Three-Dimensional Magnetic Reconnection”, **Phys. Rev. Lett.**, 110, 265004 (2013)
97. Beresnyak, A., Xu, H., **Li, H.**, & Schlickeiser, R. “MHD Turbulence and Cosmic Ray Reacceleration in Galaxy Clusters”, **Astrophysical Journal**, 771, 131 (2013)
98. Johnson, J.L., Whalen, D.J., **Li, H.**, & Holz, D.E. “Supermassive Seeds for Supermassive Black Holes”, **Astrophysical Journal**, 771, 116 (2013)
99. Govoni, F., Murgia, M., Xu, H., **Li, H.**, et al. “Polarization of Cluster Radio Halos with Forthcoming Radio Interferometers”, **Astronomy & Astrophysics**, 554, 102 (2013)

100. Si, J., Colgate, S.A., **Li, H.**, Martinic, J., Westpfahl, D. “Data Acquisition in a High-Speed Rotating Frame for New Mexico Institute of Mining and Technology Liquid Sodium $\alpha - \omega$ dynamo experiment”, *Review of Scientific Instruments*, 84, 104501 (2013)
101. Guan, X., **Li, H.**, Li, S. “Relativistic MHD Simulations of Poynting Flux-Driven Jets”, *Astrophysical Journal*, 781, 48 (2014)
102. Beresnyak, A. & **Li, H.** “Basic Bell-MHD Turbulence”, *Astrophysical Journal*, 788, 107 (2014)
103. Liu, Y-H, Daughton, W., Karimabadi, H., **Li, H.**, & Gary, S.P. “Do Dispersive Waves Play a Role in Collisionless Magnetic Reconnection?”, *Physics of Plasmas*, 21, 022113 (2014)
104. Fu, W., **Li, H.**, Lubow, S., Li, S. “Long Term Evolution of Planet-Induced Vortices in Protoplanetary Disks”, *Astrophysical Journal Letters*, 788, L41 (2014)
105. Colgate, S.A., Fowler, T.K., **Li, H.**, & Pino, J. “Quasi-Static Model of Collimated Jets and Radio Lobes I: Accretion Disks and Jets”, *Astrophysical Journal*, 789, 144 (2014)
106. Zhang, X., **Li, H.**, Li, S., Lin, D.N.C. “Resonances of Multiple Exoplanets and Implications for Their Formation”, *Astrophysical Journal Letters*, 789, L23 (2014)
107. Zhai, X., **Li, H.**, Bellan, P.M., Li, S. “3D MHD simulation of Caltech Plasma Jet Experiment: First results”, *Astrophysical Journal*, 791, 40 (2014)
108. Guo, F., **Li, H.**, Daughton, W., Liu, Y-H. “Formation of Hard Power-law in the Energetic Particle Spectra Resulting from Relativistic Magnetic Reconnection”, *Phys. Rev. Lett*, 113, 155005 (2014)
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